Salivary Alpha-Amylase: A Potential Biomarker for Type II Diabetes

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Diabetes mellitus is one of the fastest-growing health challenges with considerable morbidity and significantly impacts immune function, predisposing individuals to infections. Traditional diagnostic and monitoring approaches often rely on invasive blood tests. However, the present study sheds light on the potential of salivary alpha-amylase as a non-invasive biomarker for Type II diabetes.

The study enrolled 80 participants divided into three groups: uncontrolled diabetics(30), controlled diabetics(30), and healthy controls (20). The findings showed significantly elevated salivary amylase levels in diabetic individuals compared to healthy participants, with a significant difference between uncontrolled diabetics and controls. Moreover, salivary amylase levels between controlled diabetics and healthy individuals showed no statistically significant difference, suggesting the enzyme's responsiveness to glycemic control.

This research underscores the potential of salivary diagnostics as a valuable tool for monitoring diabetes. While promising, validation with larger, more diverse cohorts—including prediabetics and Type I diabetics—is necessary. If further confirmed, salivary alpha-amylase could become one of the most essential parameters in diabetes management by offering a simple, non-invasive, and accessible alternative for diagnosis and disease monitoring.

This advancement aligns with the growing role of oral and maxillofacial pathology in systemic disease detection, emphasizing the importance of interdisciplinary approaches in healthcare.